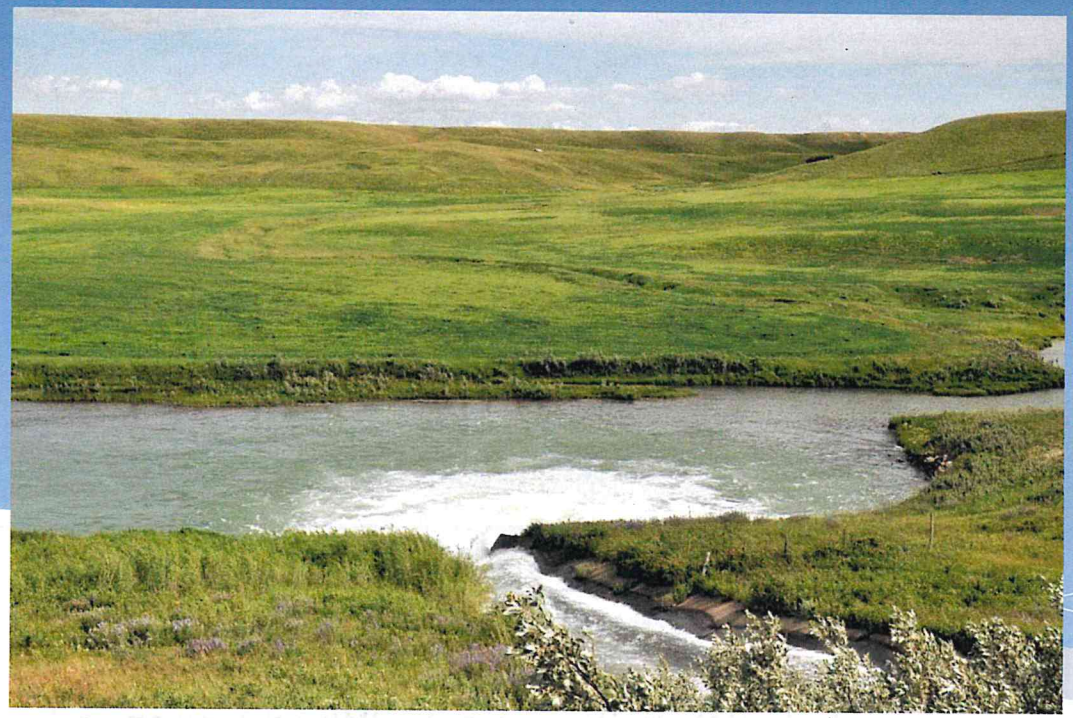
2019 – Late Summer Water Supply Outlook

Water Policy Interim Committee

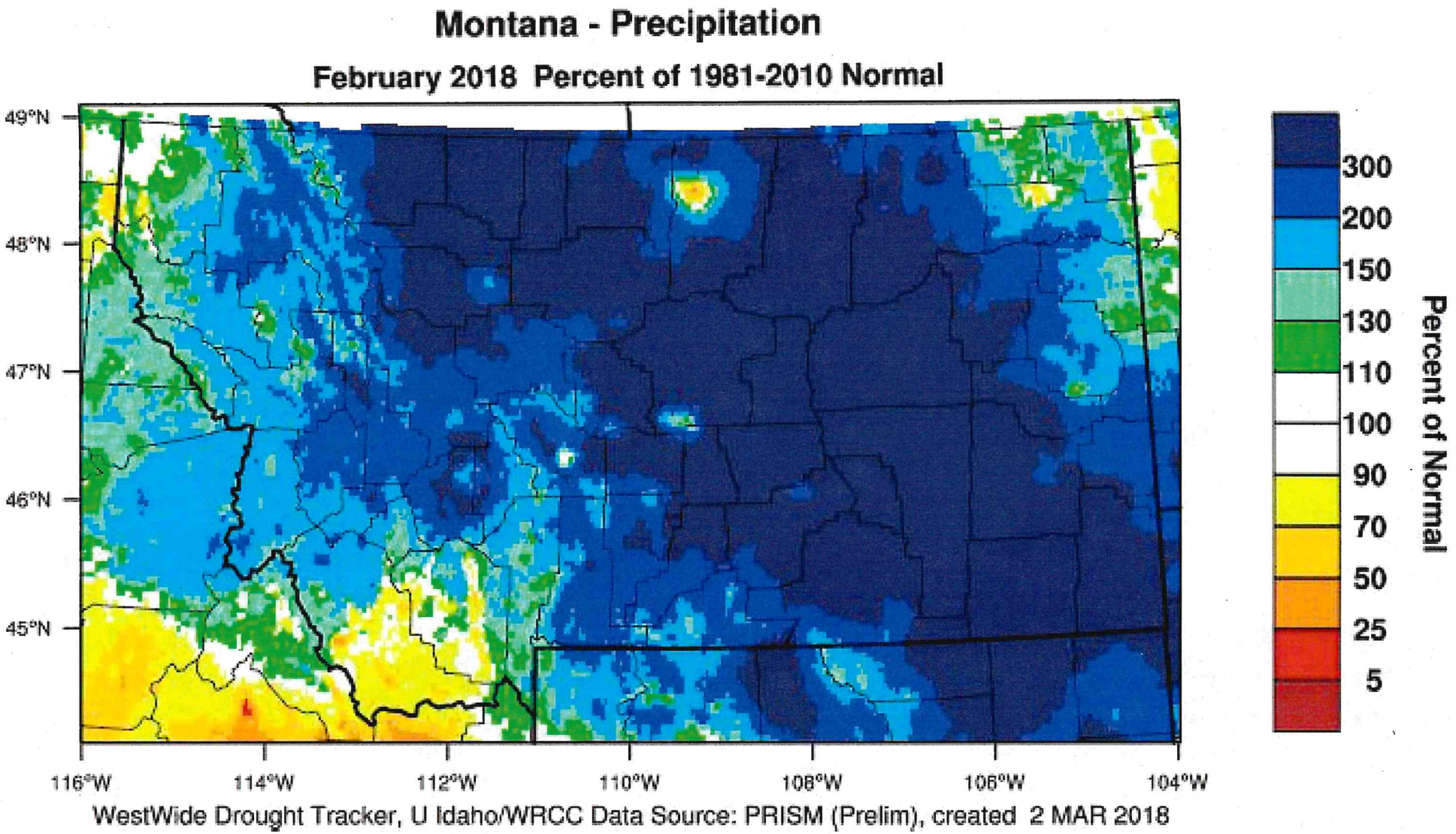
September 10, 2019

Michael Downey – DNRC, Water Management Bureau

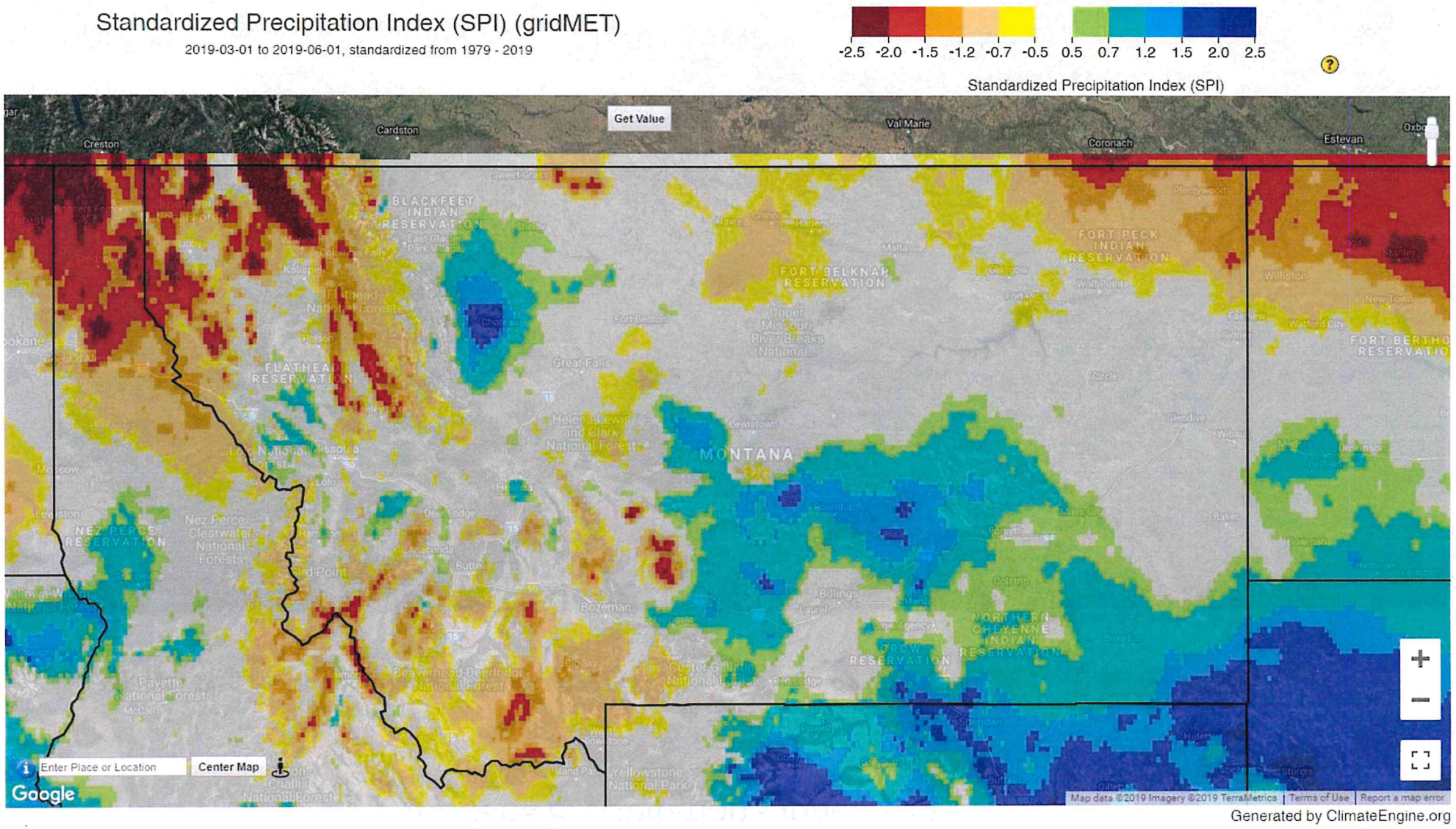


Saint Mary's Canal – Final Drop

Montana Precipitation – February, 2019

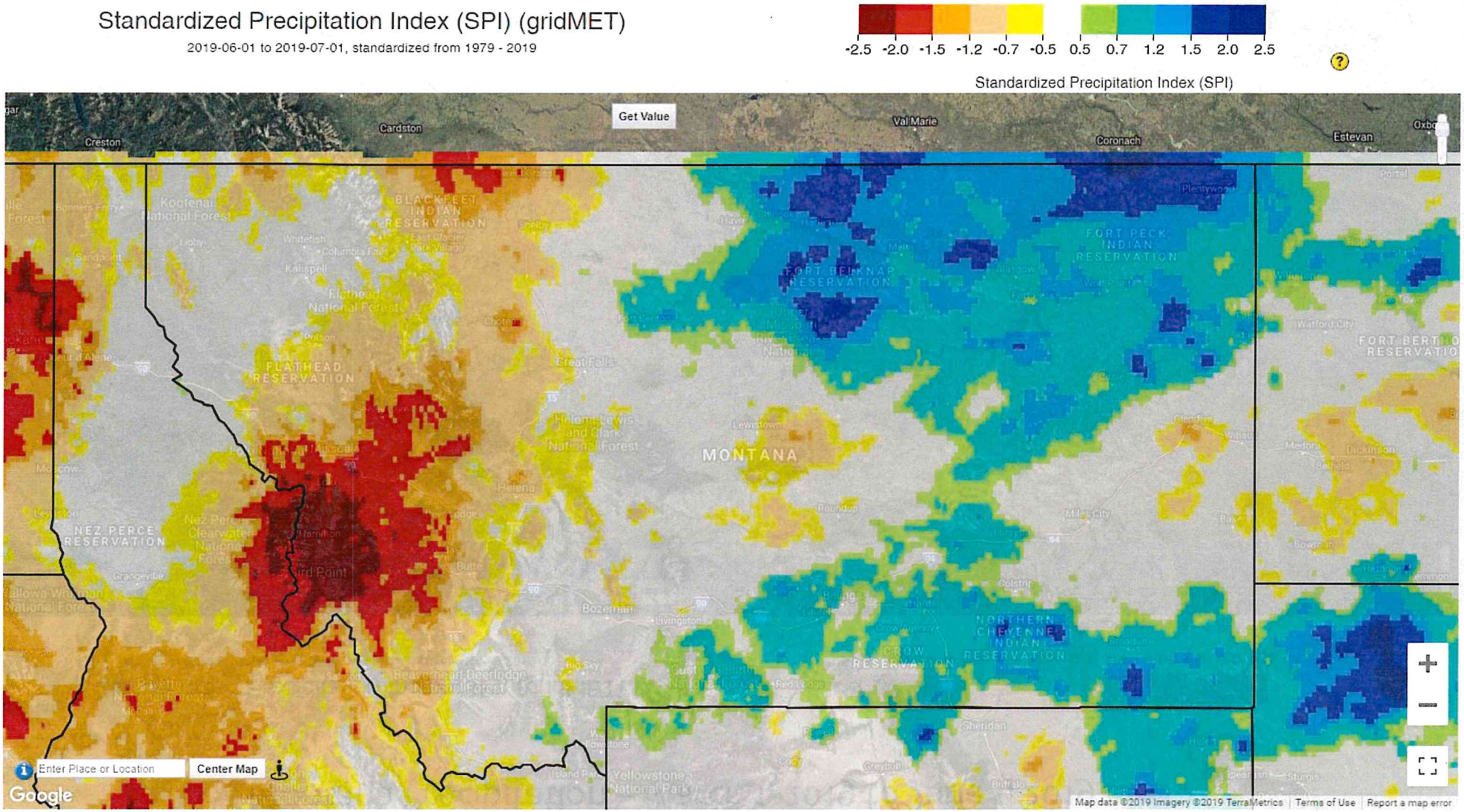


Montana Precipitation – March 1, 2019 to June 1, 2019



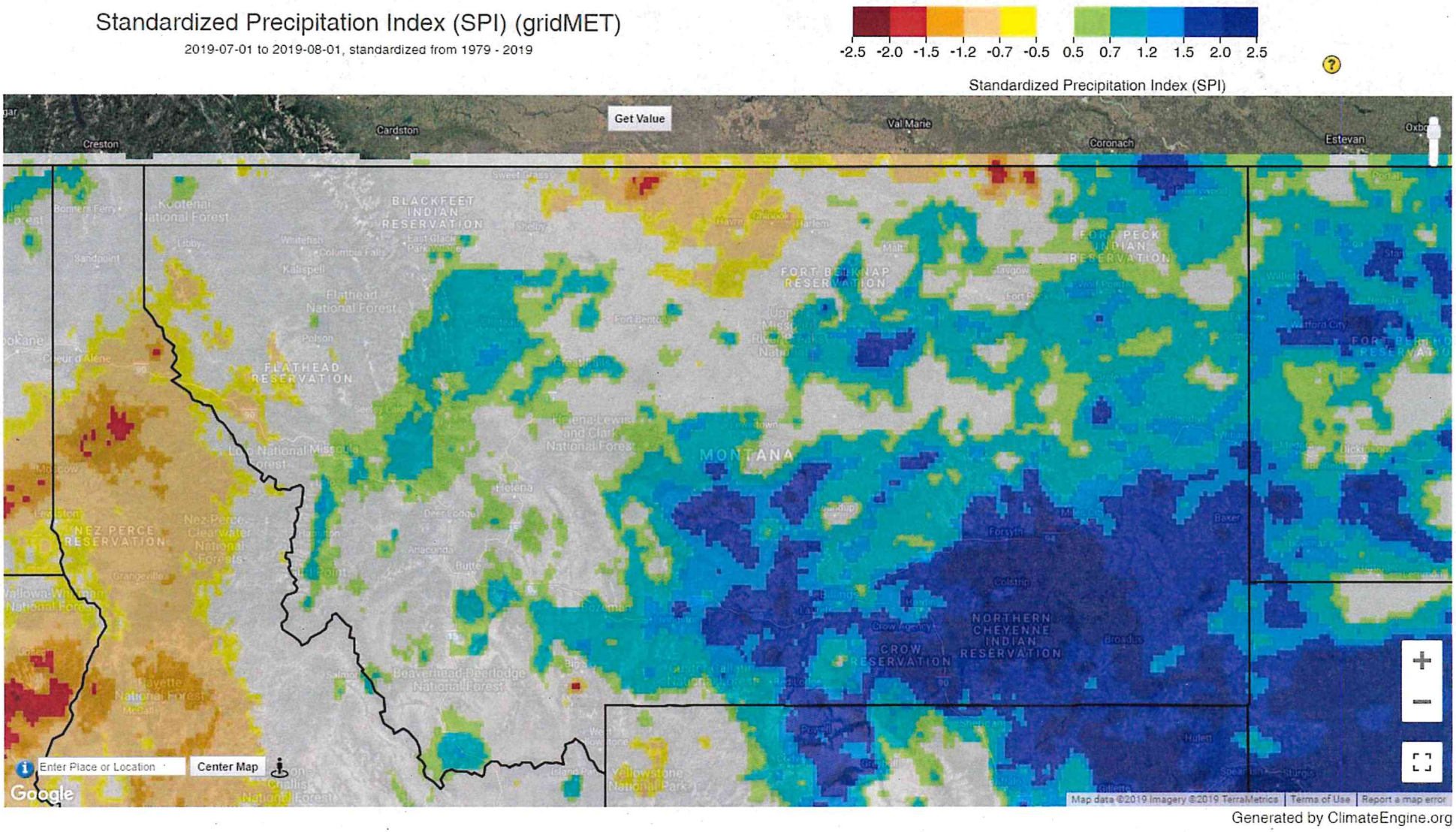
Generated by ClimateEngine.org

Montana Precipitation - June, 2019



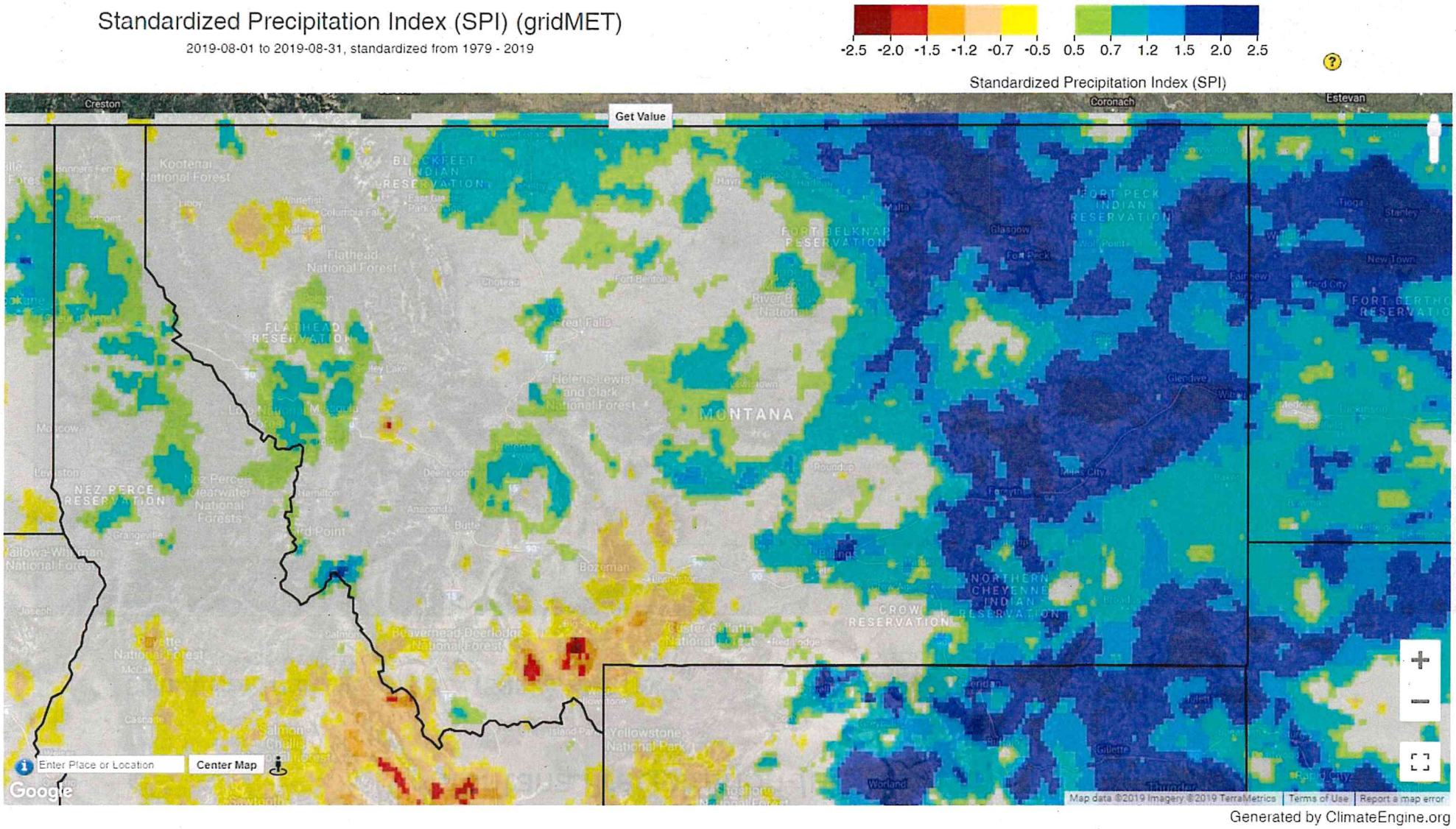
Generated by ClimateEngine.org

Montana Precipitation July, 2019



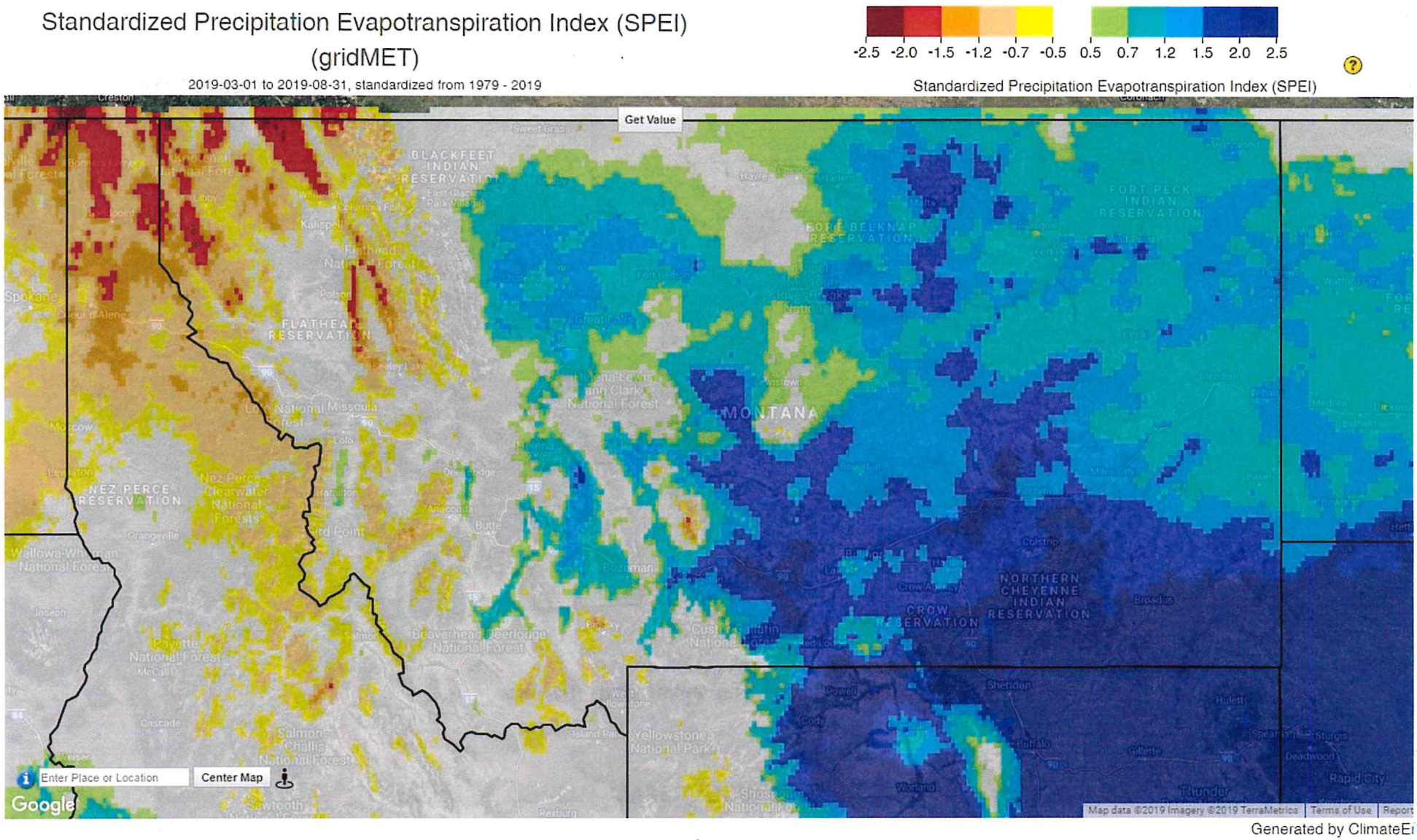
Generated by ClimateEngine.org

Montana Precipitation August, 2019



Generated by ClimateEngine.org

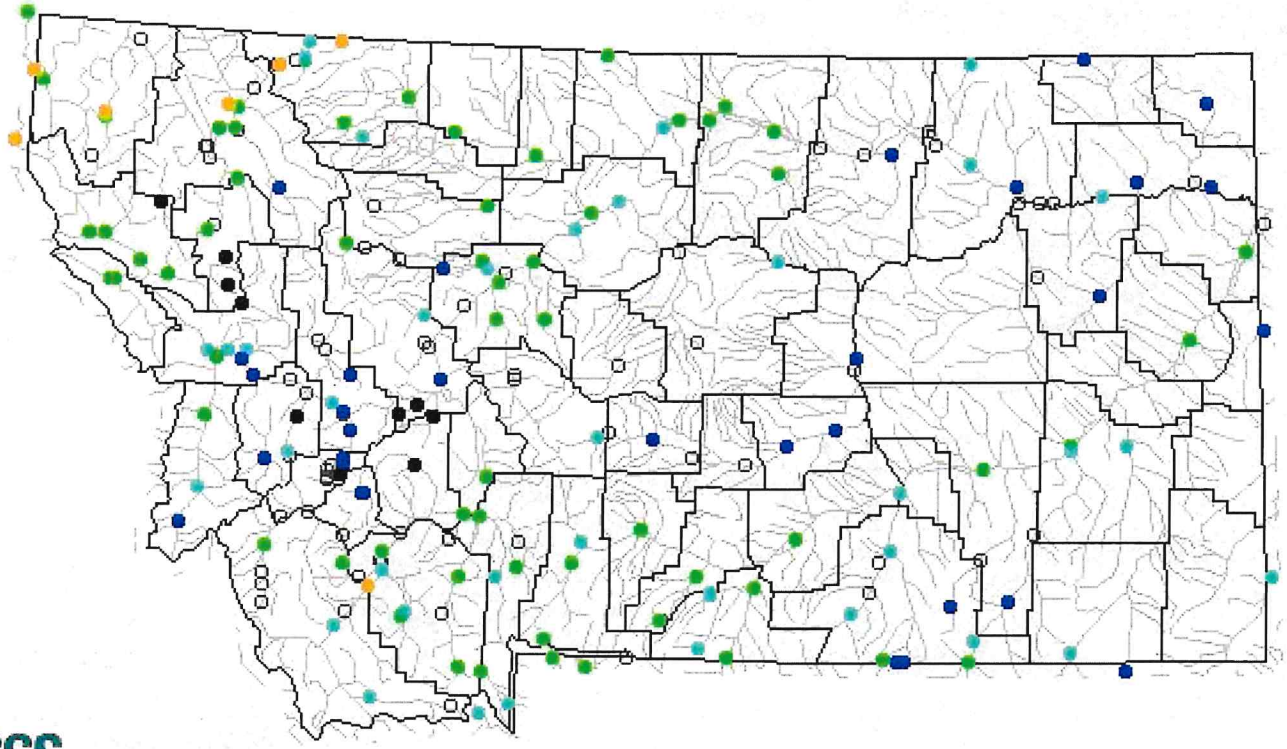
Montana Precipitation and Evaporation
March 1, 2019 to August 31, 2019



Generated by ClimateEr

Current Streamflows Compared to Historic Average

Monday, September 09, 2019 15:30ET

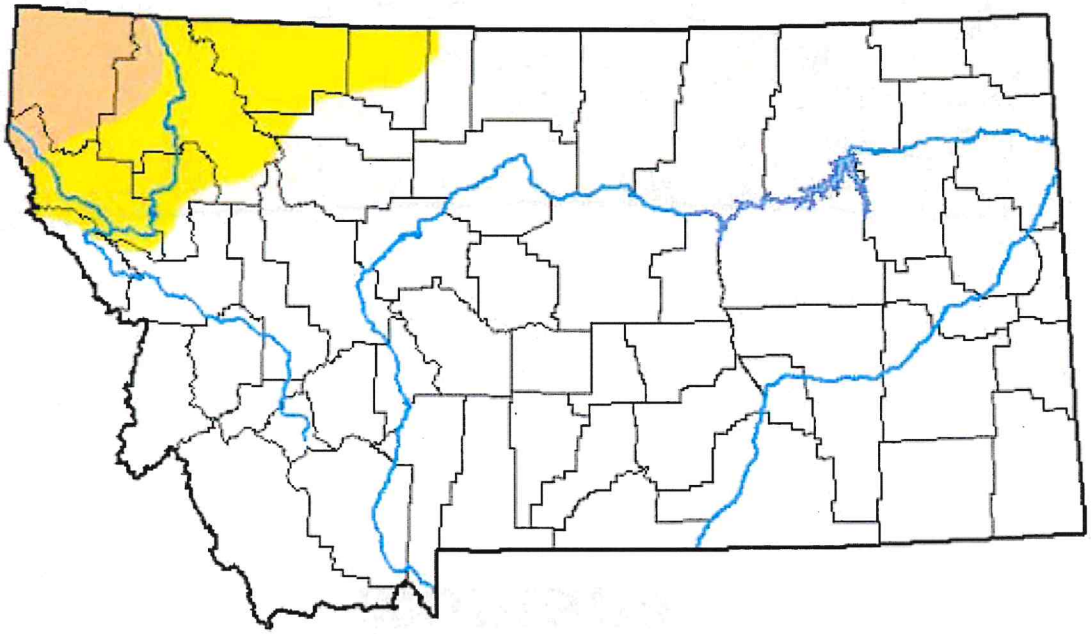


USGS

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

U.S. Drought Monitor

Montana



September 3, 2019

(Released Thursday, Sep. 5, 2019)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	87.99	12.01	3.44	0.00	0.00	0.00
Last Week *08-27-2019*	84.48	15.52	3.44	0.00	0.00	0.00
3 Months Ago *06-04-2019*	90.98	9.02	1.75	0.00	0.00	0.00
Start of Calendar Year *01-01-2019*	93.69	6.31	0.92	0.00	0.00	0.00
Start of Water Year *09-25-2018*	46.28	53.72	13.18	2.74	0.00	0.00
One Year Ago *09-04-2018*	46.31	53.69	13.07	3.48	0.00	0.00

Intensity:

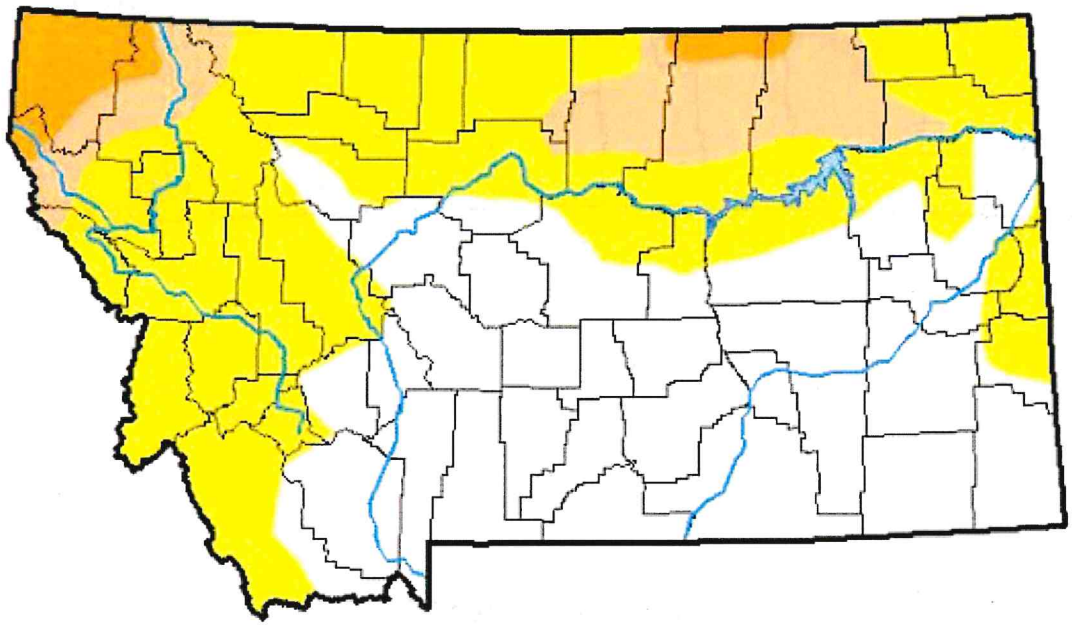
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
David Miskus
NOAA/NWS/NCEP/CPC

U.S. Drought Monitor

Montana



September 11, 2018

(Released Thursday, Sep. 13, 2018)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	46.31	53.69	13.07	3.48	0.00	0.00
Last Week *09-04-2018*	46.31	53.69	13.07	3.48	0.00	0.00
3 Months Ago *06-12-2018*	88.05	11.95	0.00	0.00	0.00	0.00
Start of Calendar Year *01-02-2018*	47.47	52.53	42.04	26.75	12.23	0.00
Start of Water Year *09-26-2017*	6.48	93.52	86.08	69.62	42.74	17.53
One Year Ago *09-12-2017*	0.00	100.00	91.22	73.02	49.86	25.97

Intensity:

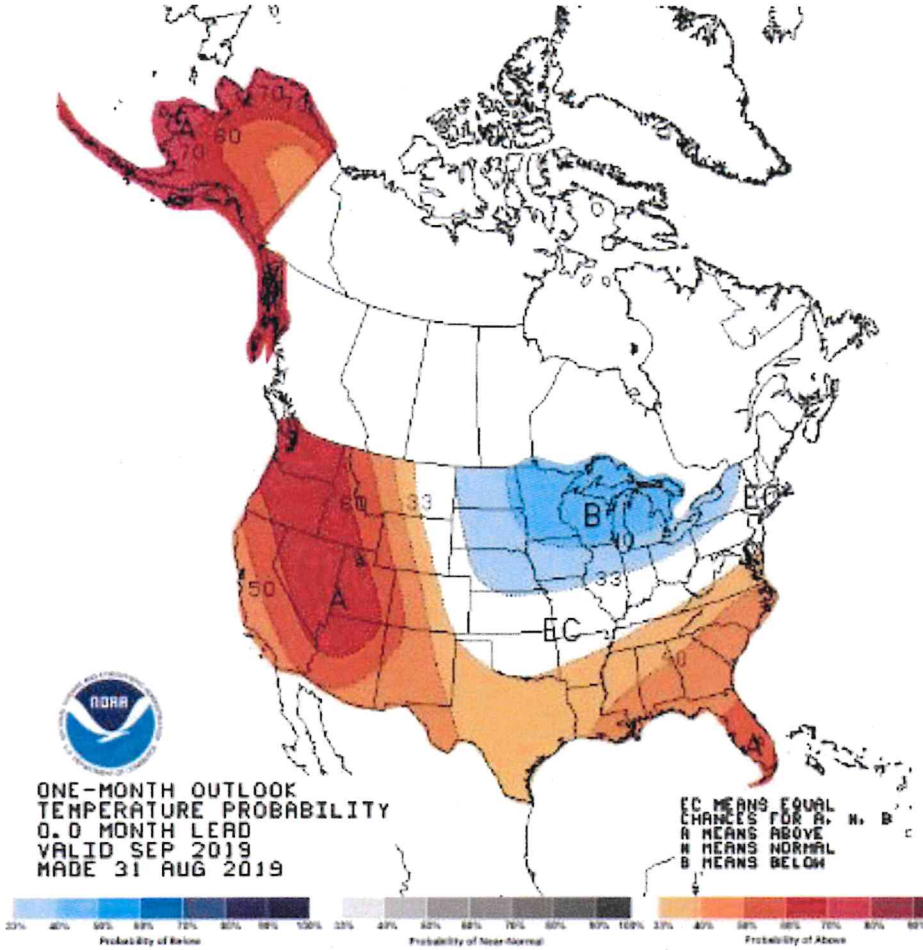
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

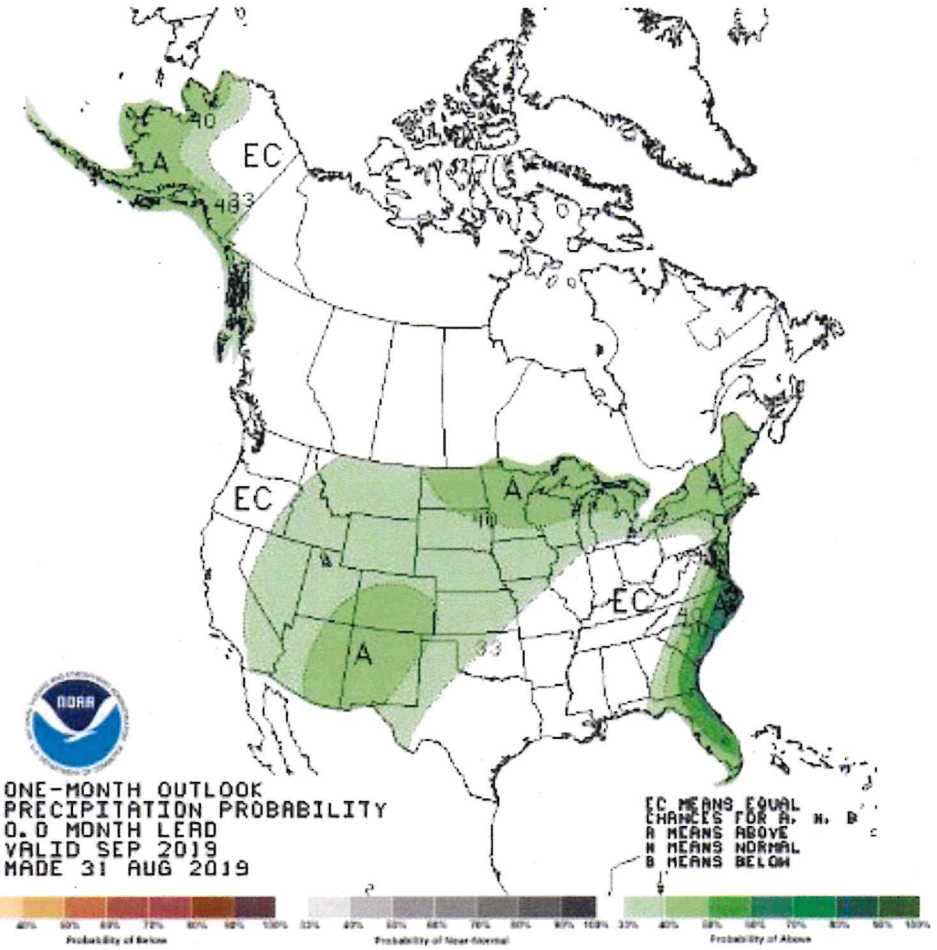
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
David Miskus
NOAA/NWS/NCEP/CPC

Revised OFFICIAL 30-Day Forecasts

Issued: August 31, 2019





MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

WATER RESOURCES DIVISION - STATE WATER PROJECTS BUREAU

August 31, 2019

All Contents in Acre-Feet

RESERVOIR	TOTAL CAPACITY (includes dead storage)*	CONTENTS						READING DATE	COMMENTS
	Full Pool	30 YR AVERAGE	Last Year	Last Month	PRESENT	% CAPACITY	%AVERAGE		
	Contents	1988- 2018	8/31/2018	7/31/2019	8/31/2019	8/31/2019	for August		
		for August							
Clark Fork Basin									
E.F. ROCK CREEK	16,040	5,741	4,978	11,948	**7,295**	45	213	8/30/2019	elev.= 6,029.6 ft
NEVADA CREEK	11,207	5,746	6,325	8,518	**4,938**	44	86	8/29/2019	elev.= 4,596.05 ft
W.F. BITTERROOT	32,362	16,345	19,931	32,301	**17,065**	53	104	8/27/2019	elev.= 4,696.64 ft
Lower Missouri Basin									
ACKLEY	6,722	3,424	4,873	5,707	**4,826**	72	141	8/31/2019	elev.= 4,310.00 ft (3,825 AF)
BAIR	7,300	3,264	5,657	7,168	**5,826**	80	178	8/30/2019	elev.= 5,319.2 ft
DEADMAN'S BASIN	75,968	37,329	63,750	74,308	**63,732**	84	171	8/30/2019	elev.= 3,914.9 ft (59,982 AF)
FRENCHMAN	2,777	1,873	NR	3,752	**NR**	--	--	--	Not Reported
MARTINSDALE	23,348	9,837	18,556	22,829	**21,300**	91	217	8/29/2019	elev.= 4,777.08 ft
N.FK. SMITH RIVER	11,406	5,293	9,294	11,396	**9,025**	79	171	8/29/2019	elev.= 5,480.37 ft
YELLOWATER	3,842	1,694	3,138	3,463	**3,236**	84	191	8/27/2019	elev.= 3,116.9 ft
Upper Missouri Basin									
MIDDLE CREEK	10,184	6,588	6,430	9,568	**6,865**	67	104	8/30/2019	elev.= 6705.7 ft
NILAN	10,992	6,269	9,535	10,571	**8,428**	77	134	9/4/2019	elev.= 4,437.27 ft (7,528 AF)
RUBY RIVER	37,612	15,590	16,591	33,142	**20,685**	55	133	8/30/2019	elev.= 5,373.1 ft
WILLOW CREEK	18,000	9,955	10,026	13,778	**11,260**	63	113	8/27/2019	elev.= 4,726.59 ft
Yellowstone Basin									
COONEY	28,230	17,913	21,903	26,026	**21,827**	77	122	8/30/2019	elev.= 4,243.2 ft (21,737 AF)
COTTONWOOD	1,900	748	1,240	2,001	**1,297**	68	174	8/29/2019	elev.= 5,099.56 ft
TONGUE RIVER	79,071	47,618	56,775	72,925	**57,809**	73	121	8/30/2019	elev.= 3,422.1 ft

* Note: Reservoir contents include dead storage at the following:

Ackley	1001 AF	**	Tongue River	711 AF	(O&M storage table includes dead storage)
Cooney	90 AF	**	W. F. Bitterroot	656 AF	(O&M storage table includes dead storage)
Deadman's	3750 AF	**	Willow Creek	269 AF	(O&M storage table includes dead storage)
Nilan	900 AF	**			

** O&M slope storage table does not include dead storage (so dead storage has to be added into the storage from the table)

* Note: Cooney capacity reflects capacity after 1982 dam rehabilitation; prior capacity was 24,195 A.F. Average storage shown is for post rehabilitation data.
* Note: Middle Creek capacity reflects capacity after 1993 dam rehabilitation; prior capacity was 8,027 A.F. Average storage shown is for post rehabilitation data.
* Note: Nevada Creek Reservoir Capacity reflects live storage capacity survey conducted in year 2000. Prior live storage capacity documented as 12,723 AF.
* Note: Tongue River capacity reflects capacity after 1999 dam rehabilitation; prior capacity was 68,040 A.F. Average storage is post rehabilitation data.
* Note: Frenchman Reservoir capacity tables updated based on aerial survey; prior capacity was 3752 A.F. Average shown is from 2008 forward.